

a.) Amendment to the Claims

1. (Currently Amended) A method for producing a cell expressing a neural ~~surface~~ crest marker or a neural tube marker, comprising:

culturing under serum-free conditions an embryonic stem cell *in vitro* in the absence of retinoic acid and in the presence of a stroma cell without forming embryoid body, wherein the stroma cell is OP9 cell or PA6 cell e.

Claims 2-17 (Cancelled).

18. (Previously Presented) The method according to any one of claims 1, 80 or 81, wherein the stroma cell is a stroma cell whose proliferation potency is deleted by a physicochemical treatment.

19. (Previously Presented) The method according to any one of claims 1, 80 or 81, wherein the stroma cell is a stroma cell whose proliferative potency is deleted by an antitumor agent, irradiation or pathologic tissue fixative.

20. (Previously Presented) The method according to claim 18, wherein the physiocochemical treatment is an antitumor agent selected from the group consisting of mitomycin C, 5-fluorouracil, adriamycin and methotrexate.

21. (Previously Presented) The method according to any one of claims 1, 80 or 81, wherein the stroma cell is a stroma cell whose proliferative potency is deleted by a microwave fixation, a rapid freeze-substitution fixation, a glutaraldehyde fixation, a p-formaldehyde fixation, a formalin fixation, an acetone fixation, a Van fixation, a periodic acid fixation, a methanol fixation or an osmic acid fixation.

Claim 22 (Cancelled).

23. (Previously Presented) The method according to any one of claims 1, 80 or 81, wherein the stroma cell is an M-CSF deficient mouse calvaria-derived OP9 cell.

24. (Previously Presented) The method according to any one of claims 1, 80 or 81, wherein the embryonic stem cell is selected from the group consisting of:

(a) an embryonic stem cell established by culturing an early embryo before implantation;

(b) an embryonic stem cell established by culturing an early embryo produced by nuclear transplantation of the nucleus of a somatic cell; and

(c) an embryonic stem cell in which a gene on the chromosome of the embryonic stem cell of (a) or (b) is modified using gene engineering.

Claims 25-73 (Cancelled).

74. (Previously Presented) The method according to claim 23, wherein the embryonic stem cell is selected from the group consisting of:

(a) an embryonic stem cell established by culturing an early embryo before implantation;

(b) an embryonic stem cell established by culturing an early embryo produced by nuclear transplantation of the nucleus of a somatic cell; and

(c) an embryonic stem cell in which a gene on the chromosome of the embryonic stem cell of (a) or (b) is modified using gene engineering.

75. (Previously Presented) The method according to claim 74, wherein the stroma cell is recognized by a monoclonal antibody produced by hybridoma FERM BP-7573.

Claims 76-79 (Cancelled).

80. (Currently Amended) A method for producing a dopaminergic neuron, an acetylcholinergic neuron, a γ -aminobutyrategic neuron or a serotonergic neuron, comprising:

culturing under serum-free conditions an embryonic stem cell *in vitro* in the absence of retinoic acid and in the presence of a stroma cell without forming embryoid body, wherein the stroma cell is OP9 cell or PA6 cell.

81. (Currently Amended) A method for producing a neural stem cell which is stained by an anti-nestin antibody comprising:

culturing under serum-free conditions ~~for a time period from 1 to 14 days~~ an embryonic stem cell *in vitro* in the absence of ~~both~~ retinoic acid ~~and BMP-4~~ and in the presence of a stroma cell without forming embryoid body, wherein the stroma cell is OP9 cell or PA6 cell.

82. (Previously Presented) The production method according to claim 1, wherein the method produces said neural crest cell.

83. (Previously Presented) The production method according to claim 1, wherein the method produces said neural tube cell.

84. (Previously Presented) The production method according to claim 80, wherein the method produces said dopaminergic neuron.

85. (Previously Presented) The production method according to claim 80, wherein the method produces said acetylcholinergic neuron.

86. (Previously Presented) The production method according to claim 80, wherein the method produces said γ -aminobutyrate neuron.

87. (Previously Presented) The production method according to claim 80, wherein the method produces said serotonergic neuron.

88. (Previously Presented) The method according to any one of claims 1, 80 or 81, wherein the stroma cell is a mouse calvaria-derived MC3T3-G2/PA6 cell.

89. (Previously Presented) The method according to claim 23, wherein the stroma cell is recognized by a monoclonal antibody produced by hybridoma FERM BP-7573.

90. (Previously Presented) The method according to claim 88, wherein the stroma cell is recognized by a monoclonal antibody produced by hybridoma FERM BP-7573.